



An AGL Resources Company

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September 19, 2012

Mr. Jerome Blackman
The Natural Gas Star Program
U.S. EPA (6207J)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Mr. Blackman:

Enclosed in the Natural Gas Star Implementation Plan for Central Valley Gas Storage (CVGS) in Princeton, CA. The facility address is 5285 McAusland Road, Princeton, CA 95970. I will be submitting Natural Gas Star reports on behalf of CVGS, which is a sister company to Nicor Gas.

Please let me know if you have any questions regarding this submittal. I can be reached at 630-388-2381 or kbodger@aglresources.com.

Sincerely,

A handwritten signature in dark ink, appearing to read "Keith Bodger", written in a cursive style.

Keith Bodger

encl.

Implementation Plan



Transmission Sector

Company Information

Central Valley Gas Storage
5285 McAusland Road
Princeton, CA 95970

If the information provided above is incorrect,
please make corrections below.

Company Name: Central Valley Gas Storage
Gas Star Contact: Keith Bodger
Position: Environmental Consultant
Address: 1844 W. Ferry Road

City, State, Zip Code: Naperville, IL 60563
Telephone: 630-388-2381
Fax: 630-983-4345
Email: kbodger@aglresources.com

Implementation Plan Elements

ELEMENT 1 Best Management Practices (BMPs)

The following BMPs have been identified as significant opportunities to cost effectively reduce methane emissions from the transmission sector. They were selected based on their applicability to the industry, economic feasibility, and cost-effectiveness. There are three core BMPs for the transmission sector:

- BMP 1** Directed inspection and maintenance at compressor stations
- BMP 2** Use of turbines at compressor stations
- BMP 3** Identify and replace high-bleed pneumatic devices

For detailed information on these BMPs, please refer to the *Lessons Learned* publications on the Natural Gas STAR website: epa.gov/gasstar/tools/recommended.html.

ELEMENT 2 Partner Reported Opportunities (PROs)

Current partners have reported many processes and technologies that are considered "other Best Management Practices" by the program. New partners are encouraged to evaluate and report current and new practices or technologies that cost effectively reduce methane emissions. PROs are made available to all partners, and can be viewed at: epa.gov/gasstar/tools/recommended.html.

ELEMENT 3 Inventory Past Reductions

Partners are encouraged to report past methane emission reductions back to 1990. Accounting for these historical reductions will create a permanent record of your company's methane emission reduction efforts. In addition, reviewing past activities will help guide companies' participation in Natural Gas STAR by creating a base of understanding of current activities to facilitate planning of future activities.

The Implementation Plan is designed to be a dynamic tool for Natural Gas STAR Partners to plan their program activities. As company priorities and plans shift over time, the Implementation Plan may be revised or updated by submitting a new form to the program.

ELEMENT 1 Best Management Practices

BMP 1 Implement Directed Inspection and Maintenance at Compressor Stations

A DI&M program is a system for performing routine leak detection and repair where leak measurement data from previous inspections are used to guide subsequent inspections and direct maintenance to those leaks that are cost effective to repair.

Estimated Reduction
Potential
8,540 Mcf per station

Will you be implementing this BMP? ☒ Yes ☐ No

If no, why?

- ☐ Not cost effective
☐ May consider at a later date
☐ Other _____ please describe:

If yes, at what scale will you be implementing this BMP?

- ☒ Company Wide
☐ Pilot Project
☐ Other _____

Please describe:

A formal survey will be conducted annually. However, operations staff look for leaks on a continuous basis as they make their rounds of the facilities, and when leaks are found, remedial action is taken to stop the leak(s).

Activity Summary

Total number of compressor stations? 1

Total number of compressor stations at which DI&M will take place? 1

Inspection Schedule

Stations will be inspected: ☐ quarterly ☒ annually ☐ biannually ☐ other _____

Please list in detail the number of compressor stations that will implement BMP 1 in upcoming years.

Year _____ Number of compressor stations _____

Year _____ Number of compressor stations _____

Year _____ Number of compressor stations _____

Year _____ Number of compressor stations _____

ELEMENT 3 Inventory Past Reductions

An inventory of past reductions will help to create a permanent record of your past efforts.

As a first step, many new partners find it useful to inventory and document past methane emission reduction efforts. The inventory process helps companies quantify the success of their past activities and target future methane emission reduction efforts. Historical methane emission reductions identified as part of the inventory process can be reported to the Natural Gas STAR Program.

Will you inventory past activities to include in your annual report? ☐ Yes ☒ No

If yes, please describe your company's plans for reviewing past methane emission reduction activities.

The Natural Gas STAR Program thanks you for your time.

Please send completed forms to:

Regular Mail

**The Natural Gas STAR Program
U.S. EPA (6207J)
1200 Pennsylvania Avenue, NW
Washington, DC 20460**

Express/Overnight Mail

**The Natural Gas STAR Program
U.S. EPA (6207J)
1310 L Street, NW
Washington, DC 20005**

Questions? Please call Jerome Blackman: (202) 343-9630 or Fax (202) 343-2202

The public reporting and recordkeeping burden for this collection of information is estimated to average 25 hours for each new response and 12 hours for subsequent responses. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.



ELEMENT 2

Partner Reported Opportunities (cont'd)

PROs (Partner Reported Opportunities)	
<p>Your company may take advantage of additional technologies or practices to reduce methane emissions. These can be reported to Natural Gas STAR as PROs. Following is a list of some of the PROs that have been reported by other Natural Gas STAR partners, which may be applicable to your operations (for more information on these PROs, please view: epa.gov/gasstar/tools/recommended.html):</p>	
<div style="display: flex; flex-direction: column; gap: 5px;"> <div><input type="checkbox"/> Use pipeline pump-down techniques to lower gas line pressure before maintenance</div> <div><input type="checkbox"/> Use composite wrap repair</div> <div><input type="checkbox"/> Install electric compressors</div> <div><input type="checkbox"/> Use hot taps for in-service pipeline connections</div> <div><input type="checkbox"/> Replace wet compressor seals with dry seals</div> </div>	
PROs you will be implementing	Please describe
<p>PRO Optimize Glycol Circulation and Install Flash Tanks</p> <p>At what scale will this PRO be implemented?</p> <div style="display: flex; flex-direction: column; gap: 5px;"> <div><input checked="" type="checkbox"/> Company Wide</div> <div><input type="checkbox"/> Pilot Project</div> <div><input type="checkbox"/> Other _____</div> </div>	<p>Flash tanks were installed for the three dehydrators.</p>
<p>PRO Instrument Air Systems</p> <p>At what scale will this PRO be implemented?</p> <div style="display: flex; flex-direction: column; gap: 5px;"> <div><input checked="" type="checkbox"/> Company Wide</div> <div><input type="checkbox"/> Pilot Project</div> <div><input type="checkbox"/> Other _____</div> </div>	<p>Instrument air systems were installed instead of gas pneumatics.</p>
<p>PRO _____</p> <p>At what scale will this PRO be implemented?</p> <div style="display: flex; flex-direction: column; gap: 5px;"> <div><input type="checkbox"/> Company Wide</div> <div><input type="checkbox"/> Pilot Project</div> <div><input type="checkbox"/> Other _____</div> </div>	
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PROs you will be implementing	Please describe
<p>PRO 103 – Pneumatic Air for Starting Compressors At what scale will this PRO be implemented?</p> <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Company Wide <input type="checkbox"/> Pilot Project <input type="checkbox"/> Other _____ </div>	<p>The three facility compressors use compressed air starters instead of natural gas starters.</p>
<p>PRO 102 – Programmable Logic Controllers At what scale will this PRO be implemented?</p> <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Company Wide <input type="checkbox"/> Pilot Project <input type="checkbox"/> Other _____ </div>	<p>CVGS uses programmable logic controllers, which automates the compressor startup sequence.</p>
<p>PRO 201 – Reroute Glycol Skimmer Gas At what scale will this PRO be implemented?</p> <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Company Wide <input type="checkbox"/> Pilot Project <input type="checkbox"/> Other _____ </div>	<p>Skimmer gas in the glycol dehydrator is rerouted to the reboiler firebox for fuel use.</p>
<p>PRO 203 – Natural Gas-Drive Glycol Pumps At what scale will this PRO be implemented?</p> <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Company Wide <input type="checkbox"/> Pilot Project <input type="checkbox"/> Other _____ </div>	<p>The Triethylene glycol pumps are electric motor-driven rather than natural gas-driven.</p>
<p>PRO 907 – Ultrasonic Meters Installation At what scale will this PRO be implemented?</p> <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Company Wide <input type="checkbox"/> Pilot Project <input type="checkbox"/> Other _____ </div>	<p>Ultrasonic meters are installed at the compressor station and at each wellhead in place of orifice meters.</p>

BMP 3

Identify and Replace High-Bleed Pneumatic Devices

Pneumatic devices used in the transmission sector actuate isolation valves and regulate gas flow and pressure at compressor stations, pipelines, and storage facilities. In the distribution sector they are used on meter runs at gate stations for regulating flow and pressure. Replacing high-bleed pneumatic devices with low- or no-bleed devices reduces or eliminates emissions and improves safety.

Estimated
Reduction Potential

124 Mcf/yr/device

Will you be implementing this BMP? ☐ Yes ☒ No

If no, why?

☐ Not cost effective

☐ May consider at a later date

☐ Have already implemented

☒ Other Facility has no bleed-by valves please describe:

If yes, at what scale will you be implementing this BMP?

☐ Company Wide

☐ Pilot Project

☐ Other _____

Please describe:

Activity Summary

Number of high-bleed pneumatic devices in system? 0

Number of high-bleed pneumatic devices to be replaced? 0

Replacement Schedule

Number of high-bleed pneumatic devices to be replaced by the end of:

Year 1: _____

Year 2: _____

Year 3: _____

Year 4: _____

Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

BMP 2

Use of Turbines at Compressor Stations

Reciprocating engines used to drive compressors throughout transmission systems release significant amounts of methane in their exhaust. Replacing these engines with turbines can reduce a large portion of these methane emissions.

Estimated Reduction Potential
0.234 Mcf/hp/hr per replacement

Will you be implementing this BMP? ☐ Yes ☒ No

If no, why?

- ☐ Not cost effective
☐ May consider at a later date
☐ Have already implemented
☒ Other New facility with reciprocating engines

Reciprocating engines are used due to the variable injection/withdrawal rates at the facility.

If yes, at what scale will you be implementing this BMP?

- ☐ Company Wide
☐ Pilot Project
☐ Other _____

Please describe:

Activity Summary

Please fill out the table below to show the total number of engines selected for BMP 2.

	Reciprocating Engines in Operation	Reciprocating Engines to be Retired	Turbines to Replace Retired Reciprocating Engines	New Turbine Installations (i.e., not Replacing Retired Engines)
Number				
Horsepower				
Fuel use (e.g., MMcf/year)				

Installation Schedule

Total number of turbines installed by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

Total number of reciprocating engines retired by the end of:

Year 1: _____ Year 2: _____ Year 3: _____ Year 4: _____

Additional Information on Anticipated Plans and Projects

If additional space is needed, please continue on the back.

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